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IN THE CLAIMS:

13. (Currently Amended) A method for controlling access to a resource that may be shared by a plurality of users, which resource has an associated lock and the lock having an associated state, comprising the steps of:

when a user U_a of said users wishes to initiate access

said user ~~sends sending~~ to said lock command X that includes a tuple $(0, B_a)$, (M,S), where $M=0$ and $S=B_a$, where B_a uniquely identifies user U_a ;

when said lock receives said command X ~~and said state of said lock is 0,~~
said lock returns to said user its state value B_i that is either 0 or a non-zero value that uniquely identifies a user U_j that previously set said lock ~~which is a match-and-set lock that changes its state to a second term of an applied tuple only when a first term of the applied tuple matches its state,~~ and when $B_i=0$, said lock sets its state to B_a , thereby ~~granting and grants~~ to said user access to said resource[[:]]

~~when said users wishes to terminate access,~~

~~said user sending to said lock command Y that includes a tuple $(B_a, 0)$; and~~

~~when said lock receives said command Y, and said state of said lock is B_a , said lock sets its state to 0, and releases said resource for access by any of said users.~~

14. (Previously Presented) The method of claim 13 where B_a includes an identifier, P_a , that uniquely identifies said user, and a time stamp, T_a , that is a time pertaining to said user.

15. (Previously Presented) The method of claim 14 where B_a is such that both P_a and T_a can be derived from B_a .

16. (Canceled) .

17. (Currently Amended) The method of claim ~~16~~ 15 wherein, when in response to command X said lock returns to said user ~~wishes to initiate access, obtains said state of said lock, and said state of said lock B_i and $B_i \neq 0$ is other than 0 or B_a ,~~ said user proceeds with the following steps:

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derives value P_i and T from B_i ~~said state~~;
obtains value T_i that pertains to said a user identified by P_i ;
if T is not equal T_i , sends command Z to said lock, which command includes tuple
 (M, S) , where $M=B_i$.

18. (Previously Presented) The method of claim ~~17~~ 15 where $B_a = P_a + T_a * N$,
where N is an integer and P_a is a number less than N .

19. (Previously Presented) The method of claim ~~18-17~~ where deriving P_i from
 B_i comprises expressing B_i in modulo N , and deriving T from B_i comprises dividing B_i to
obtain a remainder that includes an integer value, and setting T to the integer value.

20. (Currently Amended) The method of claim 18 ~~14~~ where ~~$B = P + T(N)$~~ , where
 ~~P is a number less than N~~ N is the number of said users.

21. (Previously Presented) The method of claim 13 where said user is a
process.

22. (Previously Presented) The method of claim 13 where said users are
processes of a multiprocessor computer system.

23. (Canceled) .

24. (Currently Amended) The method of claim 13 where said users are
processes of a single-processor multi-processing system ~~computer~~.

25. (New) The method of claim 15 wherein, when in response to command X
said lock returns to said user-said state of said lock B_i and $B_i \neq 0$, said user proceeds with
the following steps:

derives value P_i and T from B_i ;

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obtains value a parameter that pertains to said user identified by P_i , where the parameter is either an operational status of P_i or time T_i associated with P_i ;

if the parameter is the operational status and the operational status indicates that P_i is not operational, or if the parameter is T_i and T_i is not equal to T , sends command Z to said lock, which command includes tuple (M, S) , where $M=B_i$.

26. (New) The method of claim 25 where $S=B_a$ in tuple (M, S) of command Z .

27. (New) The method of claim 26 where in response to command Z the lock returns R , and if $R=B_i$ then said user proceeds with accessing the resource.